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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/725,598	12/03/2003	Koji Irikura	0666.2120000	4879

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EXAMINER

HO, HA DINH

ART UNIT	PAPER NUMBER
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3681

DATE MAILED: 07/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/725,598

Applicant(s)

IRIKURA, KOJI

Examiner

Ha D. Ho

Art Unit

3681

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 December 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) 7-9, 12 and 13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 10 is/are rejected.
- 7) ☒ Claim(s) 11 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 3/24/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. This is the first Office Action on the merits of Application No. 10/725,598 filed on 12/03/03. Claims 1-13 are currently pending.

#### *Election/Restrictions*

2. Applicant's election without traverse of species 1, Figs. 2 and 4, claims 1-6, 10 and 11, in the reply filed on 05/11/05 is acknowledged.
3. Claims 7-9, 12 and 13 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 05/11/05.

#### *Claim Rejections - 35 USC § 102*

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 6 and 10 rejected under 35 U.S.C. 102(b) as being anticipated by Acker (US 1,802,545).

Acker teaches a bull gear of a differential gear assembly, comprising:

a ring gear 6 for inputting torque from a transmission (11); and

Art Unit: 3681

a support member 1 supporting a differential pinion 20 and supported an axle (axle that connected to side gear 27 via splines 31), the support member transmitting the torque from the ring gear to the axle through the differential pinion, wherein the ring gear and the support member are toothed to be coupled together so as to be relatively axially shiftable and not-relatively rotatable (see page 1, lines 51-54).

Regarding claim 6, the ring gear having a toothed outer periphery 9 and a toothed inner periphery (teeth between grooves 8), wherein the toothed outer periphery serves as an input gear for receiving torque from the transmission, and wherein the toothed inner periphery meshes with the toothed portion 3 of the support member so as to couple the ring gear with the support member.

Regarding claim 10, the ring gear having a first surface (the lower right side of ring 6, see Fig. 1) perpendicular to the axle, and the support member having a second surface (the upper right side of the drum 2, see Fig. 1) to be leveled with the first surface of the ring gear, further comprising: a retaining member 15 abutting against the first and second surfaces so as to prevent the ring gear and the support member from relatively axial shifting.

### *Claim Rejections - 35 USC § 103*

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 3681

7. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Acker (US 1,802,545) in view of Koltookian (US 4,688,962).

Acker does not teach the ring gear being stronger than the support member.

Koltookian teaches a differential gear, wherein the ring gear 16 is stronger than the support member 18 (this is so because the ring gear 16 is made of heat treated steel and the housing 18 of nodular iron, see col. 3, lines 42-44).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to select materials to make the differential of Acker such that the ring gear is stronger than the support member in view of Koltookian since the examiner takes Official Notice of selection of any of the known materials to form the ring gear and the support member would be within the level of ordinary skill in the art, see *In re Leshin*, 125 USPQ 416.

8. Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Acker (US 1,802,545) in view of Koltookian (US 4,688,962) as applied to claim 2 above, and further in view of Thoma (US 6,595,887).

Regarding claim 3, the combination of Acker and Koltookian does not show the support member made from sintered powder metal. Thoma shows a gear transmission that has gears made from sintered powder metal (see col. 1, lines 55-57). It would have been obvious to one of ordinary skill in the art at the time the invention was made to select sintered powder metal to make the support member of the combination of Acker and Koltookian in view of Thoma since the examiner takes Official Notice of selection of any of the known materials to form the support member would be within the level of ordinary skill in the art, see *In re Leshin*, 125 USPQ 416.

Art Unit: 3681

Regarding claim 4, the combination of Acker and Koltookian show the ring gear made of steel.

Regarding claim 5, the combination of Acker and Koltookian does not show the ring gear made from sintered powder metal. Thoma shows a gear transmission that has gears made from sintered powder metal (see col. 1, lines 55-57). It would have been obvious to one of ordinary skill in the art at the time the invention was made to select sintered powder metal to make the ring gear of the combination of Acker and Koltookian in view of Thoma since the examiner takes Official Notice of selection of any of the known materials to form the ring gear would be within the level of ordinary skill in the art, see *In re Leshin*, 125 USPQ 416.

#### *Allowable Subject Matter*

9. Claim 11 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### *Cited Prior Art*

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Alden'865 and Ishimaru et al'841 which each shows a differential gear.

#### *Communication*

11. Submission of your response by facsimile transmission is encouraged. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306. Recognizing the fact that reducing cycle time in the processing and examination of patent applications will effectively increase a patent's term, it is to your benefit to submit responses by

Art Unit: 3681

facsimile transmission whenever permissible. Such submission will place the response directly in our examining group's hands and will eliminate Post Office processing and delivery time as well as the PTO's mail room processing and delivery time. For a complete list of correspondence not permitted by facsimile transmission, see M.P.E.P. 502.01. In general, most responses and/or amendments not requiring a fee, as well as those requiring a fee but charging such fee to a deposit account, can be submitted by facsimile transmission. Responses requiring a fee which applicant is paying by check should not be submitting by facsimile transmission separately from the check. Responses submitted by facsimile transmission should include a Certificate of Transmission (M.P.E.P. 512). The following is an example of the format the certification might take:

I hereby certify that this correspondence is being facsimile transmitted to  
the Patent and Trademark Office on \_\_\_\_\_

(Date)

Typed or printed name of person signing this certificate:

\_\_\_\_\_  
(Signature)

If your response is submitted by facsimile transmission, you are hereby reminded that the original should be retained as evidence of authenticity (37 CFR 1.4 and M.P.E.P. 502.02). Please do not separately mail the original or another copy unless required by the Patent and Trademark Office. Submission of the original response or a follow-up copy of the response after your response has been transmitted by facsimile will only cause further unnecessary delays in the processing of your application; duplicate responses where fees are charged to a deposit account may result in those fees being charged twice.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ha D. Ho whose telephone number is 571-272-7091. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor can be reached on 571-272-7095.

12. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**NEW CENTRAL FAX NUMBER**

Effective July 15, 2005


Art Unit: 3681

13. On July 15, 2005, the Central FAX Number will change to **571-273-8300**. This new Central FAX Number is the result of relocating the Central FAX server to the Office's Alexandria, Virginia campus.

Most facsimile-transmitted patent application related correspondence is required to be sent to the Central FAX Number. To give customers time to adjust to the new Central FAX Number, faxes sent to the old number (703-872-9306) will be routed to the new number until September 15, 2005. After September 15, 2005, the old number will no longer be in service and **571-273-8300** will be the only facsimile number recognized for "centralized delivery".

**CENTRALIZED DELIVERY POLICY:** For patent related correspondence, hand carry deliveries must be made to the Customer Service Window (now located at the Randolph Building, 401 Dulany Street, Alexandria, VA 22314), and facsimile transmissions must be sent to the Central FAX number, unless an exception applies. For example, if the examiner has rejected claims in a regular U.S. patent application, and the reply to the examiner's Office action is desired to be transmitted by facsimile rather than mailed, the reply must be sent to the Central FAX Number.

HDH  
(571) 272-7091  
July 7, 2005

  
**HAHO**  
**PRIMARY EXAMINER**  
Art Unit 3681      7/7/05